THE JOURNAL
OF THE
Kansas Medical Society.

Vol. X. KANSAS CITY, KANSAS, MAR., 1910. No. 3

LABORATORY METHODS ACCESSIBLE TO THE CLINICIAN.

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Read before the Northeast Kansas Medical Society, February 10, 1910.

Specialization in medicine is now so developed that almost every doctor wants to class himself as a specialist along one line or another. Probably the reasons for this specialization are to be looked for in the lack of preparation on the part of many physicians and in the eagerness of others to extend their field of work. This has developed to the extent that in some instances the family physician is courted by specialists because he is regarded as a feeder of the specialists' practice.

Probably in no field of medicine does the practitioner realize his incompetency to do the required work as in the clinical laboratory. Very frequently the methods are such that the man without special laboratory training cannot comprehend nor execute them. Some clinicians are willing to acknowledge the benefits that may be obtained from laboratory examinations and investigations but are not willing to study them sufficiently to comprehend the interpretations and deductions from the results of the same; while others look upon them as fads entirely unnecessary to the practice of medicine. To obtain the best assistance from the laboratory, the clinician should possess enough information on the subject to properly select the laboratory man that is to make the investigation, to properly select the material to send for examination and to interpret the reports he receives from the laboratory.

The laboratory man very frequently is asked by the clinician not only for his diagnosis but also for his recommendation of treatment. Inability of the physician to make these examinations for himself and to interpret the results as given to him by the

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laboratory man undoubtedly at times leads to an injustice to the patient because the diagnosis is held up for some time as well as subjecting him to unnecessary expense. In some instances the clinician is unjust enough to the laboratory man to expect him to make these examinations without charge while the physician charges regular fees for his services and at times even for examinations which he himself does not do or expect to pay for. The dangers arising from the clinician's failure to do such laboratory examinations as are accessible to him cannot be over emphasized and whether it be due to the lack of knowledge or to the lack of time, the clinician ought to so train and prepare himself that he can make and interpret the results of these examinations. To best accomplish this, it is necessary that the clinician have accurate methods which can be performed in the shortest time possible.

It is the purpose of this paper to outline a few of the most important methods of examinations which yield accurate and valuable results in the minimum amount of time. It is impossible here to go into details because the field of work is so large and the clinician is expected to know the importance of the various examinations and to interpret the results obtained.

The laboratory methods may, for convenience, be divided into two groups; those which can be done in the doctor's office, and those which can best be done in the clinical laboratory.

EXAMINATIONS THAT CAN BE DONE IN THE DOCTOR'S OFFICE:

SPUTUM.—Sputum examinations are frequently resorted to as a means of diagnosis of tuberculosis of the lung. To make these examinations most valuable, the specimen to be examined should consist of the morning's sputum, collected preferably in the plain specimen without the addition of any disinfectant. The reasons for omitting the antiseptics comes out in the second step in the examination, which consists of the selection of the material for examination. To select the material for examination, the sputum should be poured into a Petri dish or into a saucer, so that such parts of the sputum as contain blood, pus, small, cheesy, dark gray particles may be selected. This material is spread on at least two glass slides which are slightly heated. Heating of the slides makes it possible to get thin and evenly spread smears because the sputum next to the slide will stick to the same, while the upper part may be spread to other parts of the slide. The slide is then heated more highly to fix the material to the slide. To stain the sputum, Ziehl's carbol-fuchsin in a small jar is heated

in a pan of boiling water, the backs of the two slides are put together and both are immersed in the hot carbol-fuchsin, where they may be left without any further attention for five minutes. It is thus unnecessary, by this method, to keep heating the carbol-fuchsin and spilling of the stain is avoided. After staining in carbol-fuchsin, the excess of stain is washed off and the slides are decolorized in 97 parts of 60% alcohol and 3 parts of concentrated hydrochloric acid, decolorization being carried on until only the thicker parts of the slide retain the red color. After this the decolorizer is washed off, and the slide is counter-stained with a mixture of ½ gram each of methylene blue and sodium carbonate in 100cc. of distilled water. About one minute of staining with the counter-stain is necessary and if the slide is stained too blue the excess of stain may be washed off with warm water. The slide is then examined for tubercle bacilli which will be stained red. At least one-half hour should be given for search on the two slides unless bacilli are found before this. If, in the first specimen of sputum, after one-half hour's search no tubercle bacilli are found it is usually desirable to obtain other specimens for examination because sputum from a patient with pulmonary tuberculosis may contain B. tuberculosis at one time and be free from them at another. At times, it is necessary to use other methods when too few bacilli are present. One of the most satisfactory of these consists in adding to several cubic centimeters of sputum such amounts of anti-formin as to obtain a 15% solution of anti-formin. This will digest and liquify the sputum which can then be centrifuged, the sediment stained and examined as before. When many pus cells or elastic tissue fibres are found and the clinical symptoms indicate pulmonary tuberculosis, repeated examinations are indicated before it is decided that the disease is not caused by B. tuberculosis. It frequently happens that other organisms may be the cause of disease of the lungs so that it is not an unusual occurrence to find steptococci, influenza bacilli and actinomyces in sputum.

MILK.—There are various tests for milk which give important and valuable information on cow's and human milk.

a. **Specific Gravity.** This is obtained by the so-called specific gravity spindle and is of importance in indicating skimming, dilution and the presence of excessive amounts of fat. The specific gravity of normal cow's milk ranges from 1.029 to 1.035, that of skimmed milk from 1.036 to 1.038 and that of cream from 0.95 to 1.01.

b. **Formaldehyde.** The presence of formaldehyde is very

easily detected by diluting milk with an equal volume of water and then holding the tube slightly to the side and allowing several cubic centimeters of strong sulphuric acid, (C. P.) to which a few drops of a solution of iron chloride have been added, to form the bottom layer. A ring is formed at the junction of the diluted milk and the sulphuric acid. It must be remembered that the violet color is not obtained when milk contains more than .05% of formaldehyde.

c. **Fat.** Fat is determined by the Babcock test. It frequently happens, especially in the examination of human milk that a 17.6 cc. sample cannot be obtained. To work with smaller amounts of milk, a small centrifuge tube, holding 10cc. which fits into the arms of the ordinary urine centrifuge may be used. In this test, exactly 5 cc. of milk are poured into a beaker, then 1cc. of a mixture consisting of amyl alcohol 15cc., ethyl alcohol 35 cc., and concentrated hydrochloric acid 50 cc. is thoroughly mixed with the milk. Then while constantly stirring, 4 cc. of strong sulphuric acid are slowly added. The sulphuric acid must be added slowly to avoid charring. The mixture is then poured into the graduated test tube and centrifuged for 5 minutes, at the end of which time a sufficient amount of ½ strength sulphuric acid is added to bring the surface of the fluid within the scale. After this the tube is again centrifuged for one minute. The percentage of fat is now read on the graduated scale.

d. **Protied.** Protied determination in milk is of great assistance especially to detect dilution with water and for determination of protied in human milk. For this determination the method advocated by Boggs is fairly accurate and convenient. According to this method, human milk is diluted 10 times and cow's milk diluted 20 times with distilled water. This is then poured into the Esbach albuminometer tube, such as is used for albumin determination in urine, up to the mark U. Then a mixture consisting of phosphotungstic acid 25 grams, water 125 cc., plus a solution of 25 cc. of hydrochloric acid in 100 cc. of water, is added to fill to the mark R. After this, the tube is corked and the whole thing slowly turned down twelve times. After standing 24 hours the protied determination for human milk is read directly while that for cow's milk is obtained by multiplying the reading by two. The stock of phosphotungstic acid reagent should be kept in a dark bottle. While the result obtained by this method is not as accurate as by the Kjeldahl method, it still is sufficiently accurate to be of great assistance especially to the pediatrician.

URINE EXAMINATION.—The different methods used

for urine examination are usually understood by clinicians, but because too much time is required to make the examinations they are seldom resorted to. However, in conveniently arranged offices, little time is required to make specific gravity determinations, to demonstrate the presence of albumin, sugar and casts. These methods need not be taken up here at this time.

BLOOD EXAMINATION.—Blood examinations are not often made by the clinician, however, every practitioner ought to be able to make valuable examinations and prepare for the clinical laboratory material suitable for examination. One of the difficulties frequently met with lies in obtaining sufficient amounts of blood. This is especially true if the ear is punctured and from this the drop of blood is obtained. A more satisfactory method and one which furnishes considerable amounts of blood consists in wrapping a bandage upon the middle finger of the hand beginning the windings at the base of the finger and then gradually winding up, then puncturing the finger outside of the middle line near the nail. If this is done quickly a fairly representative specimen of blood, suitable even for cell counting may be obtained.

a. **Counting.** The determination of the red and white blood corpuscles is a relatively easy matter and usually requires only a short period of time. Probably the greatest difficulty that clinicians have is in the mathematical part of this determination, for certainly any medical man should be able to count correctly the number of red and white blood corpuscles in the field of the microscope. For reference in regard to the solutions that are to be used for dilution and the mathematics involved, Emersons's book on clinical diagnosis is recommended.

b. **Hæmoglobin Determination.** While the Talqvist hæmoglobin scale has been very much discouraged as an accurate method of determining hæmoglobin, still it is practically the only one of the methods which is readily available in the laboratory or the physician's office. To obtain the best results by the use of this scale the Talqvist paper should be folded in the middle and then three places selected and marked so that if the paper is touched to the drop of blood at these places, comparsion can be made at one time with three different parts of the scale.

c. **Differential Counting.** The methods for determining the percentage of the white blood corpuscles are usually very complicated, require too much labor and hence are but little used by the clinical man. A method which has given very satisfactory results consists of the following steps: the finger is punctured after the

manner described before, from this a drop of blood is placed near the left hand margin of a clean slide, then a second slide, which has one corner broken off, is used as a spreader. An even spread of blood on the slide is obtained by placing the narrow edge of the slide to the right of the blood which is allowed to run to the edge of the spreader, then the spreader is drawn slowly to the right margin of the slide. The method is illustrated in the accompanying figures. After this, the blood is allowed to dry and is then stained with Hasting's blood stain, which should be allowed to remain on the slide for one minute, after which a few drops of distilled water, sufficient to produce a slight metallic lustre, are added to the stain. This diluted stain is then allowed to act for five minutes, after which the stain is washed off and the slide allowed to dry. With another slide used as a ruler and a needle as a marker, parallel lines, about a millimeter apart, may be drawn across the stained blood. The slide can then be examined and the white blood corpuscles readily determined by examining the cells between the parallel lines.

EXAMINATION FOR MALARIA PLASMODIA.—Blood should be obtained just before or during the time of the paroxysm, before the administration of quinine has been started. Malarial parasites may be searched for in the fresh blood specimen or in the stained blood smear. Of these methods the fresh blood examination is preferred but when this is impossible slides may be made and stained just as for differential counting. In all cases it is necessary to examine a number of slides.

DIAGNOSIS OF TUBERCULOSIS BY THE USE OF TUBERCULIN.—Freqeuntly it is impossible to determine the presence of tubercle bacilli in the material available for examination and in this case tuberculin is frequently of assistance in diagnosis. Various methods are used but the important ones are the following:

a. **Subcutaneous Injection of Old Tuberculin.** Injections of old tuberculin are usually so made as to avoid severe reactions, and for this reason in some clinics, as small doses as $\frac{2}{10}$ of milligram are first injected. If there is no reaction $\frac{5}{10}$ of milligram is given, if again no reaction occurs the amount injected is raised to one milligram, three milligrams and finally five milligrams. The injections are made at intervals of at least four days. If no reaction results from the injections, the patient is regarded as being free from tuberculosis.

b. **Ocular Reaction of Calmette.** To apply this test an aqueous solution of the alcoholic precipitate of old tuberculin is

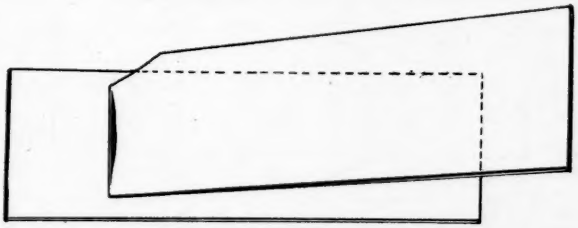

FIGURE 1.

dropped into the eye of the patient. The reaction is regarded as positive when there is congestion and inflammation of the conjuntiva. This reaction reaches its maximum about 24 to 36 hours after instillation and disappears after 3 to 6 days. This method yields fairly satisfactory results but in a few cases there has been marked disturbances of the eye and in some cases the reaction is not present when tuberculosis exists in the patient. The method has the disadvantage that it is impossible to use more than two strengths of tuberculin. Application of this test is contra-indicated in all diseases of the eye.

c. **Cutaneous Reaction of Von Pirquet.** Von Pirquet found that if a drop of old tuberculin is placed on the skin of the tuberculosis individual, the skin then scarified, and the tuberculin allowed to enter the tissues a hypersusceptibility of the skin could be observed. Probably the most satisfactory results are obtained by this method if three areas on the forearm are selected, onto the upper one of which nothing is placed while on the middle spot a drop of 50% glycerine is placed and on the lowest spot then is put a drop of old tuberculin. The skin is then scarified at the upper spot on which there is nothing, then the spot on which 50% glycerine has been placed is scarified and finally the spot on which the old tuberculin has been placed is scarified. The scarification in which 50% glycerine is allowed to enter the tissues, is added because old tuberculin contains 50% of glycerine which at times may produce reaction. The results warrant a diagnosis of tuberculosis, if only around the scarification containing old tuberculin papules with hyperæmia and exudation are produced. This reaction occurs from 12 to 24 hours after scarification and disappears after several days. The test is probably positive in all cases of tuberculosis but may also be positive in cases of old healed tuberculosis in which tuberculosis plays no particular part in the health or disease of the individual.

d. **Moro's Ointment.** Moro has obtained satisfactory re-

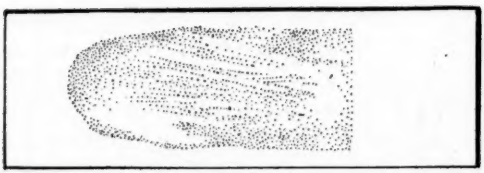

FIGURE 2.

sults in the diagnosis of tuberculosis by the application of 50% ointment of old tuberculin in lanolin. This is rubbed into the skin usually on the abdomen. This reaction consists in the reddening of the tissues and the formation of slight papules, and appears in from 24 to 40 hours but may not appear until the 6th day, so that long observation is necessary at times.

EXAMINATIONS WHICH CAN BEST BE DONE IN THE LABORATORY.—Many of the laboratory tests can best be done in the laboratory due to the fact that better equipment usually is found in the laboratory than in the physicians office. In all instances, however, several points are of importance in order that the physician may get the best possible results from the laboratory examination. It is essential that the physician regard the laboratory man as a consultant and impart to him the important facts in regard to the history of the case, the epideminological factors of importance, the signs and symptoms as observed in the patient and then, in all cases, give him the most satisfactory material for examination. It only too frequently happens that at the laboratory specimens received are unfit for examination and from which no definite results, as far as diagnosis is concerned, can be obtained. Sometimes it happens that the clinician wants to surround the material he sends for examination with the least information in regard to the case, believing that the laboratory report is of no value unless the laboratory man can give the diagnosis without knowing the origin of the material sent. Certainly no one would call in a consultant and withhold important information and if the laboratory man is to retain his self respect he must in all cases refuse to examine material on the basis of cross-examination. Often it is impossible to give a definite diagnosis as to the case but very frequently such information can be obtained, which although not diagnosing specifically, still is of importance in outlining the treatment of the patient. In order that the best results may be obtained on the materials which are generally sent to the laboratory for diagnosis the following information is given.

1. **Diagnosis of Typhoid Fever.** There are few physicians now who make a definite diagnosis of typhoid fever without con-

firmation of the agglutinatin, or so-called "Widal" test. This test consists in making a mixture of various dilutions of the patient's blood serum with the specific organisms of typhoid fever. While this test is very frequently and successfully done in the doctor's office, either with living or dead cultures of the organisms of typhoid fever, still it has been my experience that in most cases the laboratory can get earlier and more satisfactorily results than can be obtained by the clinician for reasons which will be indicated later. Blood for this examination may be collected in one of two ways: either dried blood or the serum may be sent for examination. When dried blood is sent for examination, a number of drops of blood, obtained in the way described earlier, should be placed on a glass slide, on aluminium disc or some material which does not absorb the fluid-part of the blood. In a large number of cases physicians send in blood on news papers, prescription blanks, etc; agglutination tests made of such material are of very little value. Blood may also be obtained in the curved capillary tube of Wright as shown in Figure 3. After the blood is drawn it must be sent to the laboratory. In the laboratory, the agglutination

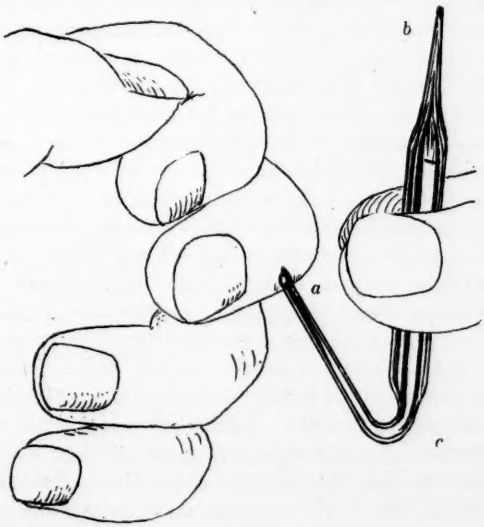

FIGURE 3.

test had better be done with Bacillus typhosus, Bacillus paratyphosus A and Bacillus paratyphosus B. The reasons for making this test with all three of these organisms is that it not infrequent-

ly happens that we have cases of paratyphoid instead of typhoid fever. The earliest diagnosis will be made when the three different organisms are used, for specific agglutinins appear earlier and in larger amounts than do common agglutinins and if the infection be one with Bacillus paratyphosus, the diagnosis can be made earlier by agglutination with Bac illus paratyphosus than with Bacillus typhosus. The diagnosis of typhoid fever can also frequently be made early in the disease by blood culture, in which case blood is obtained either from the punctured sterilized finger or from the prominent veins in the arm, cultures being made on bouillon and agar.

2. **Tuberculosis.** The sputum examinations have already been considered and can in most cases be done in the physicians office, however, there are a number of cases in which tubercle bacilli are few in number and it is necessary to break up the sputum by one of the methods already mentioned. Centrifugalization can best be done when the centrifuge is run by electric or water power which usually is not available in the physicians' office. At times it is necessary also to make animal inocculations. In all such cases it is important for the physician to remember that it requires from four to six weeks to make a diagnosis by the inocculation method.

3. **Diphtheria.** The diagnosis of diphtheria by swabs and cultures can very well be made in the physician's office, however, it is to be remembered that the identification of the organism from its morphological and staining characteristics is sometimes difficult. When the material is sent to the laboratory for examination, swabs should be made from the lesion with sterilized cotton on a wire or an applicator. After this Loeffler's blood serum or plain agar to which a drop or two of sterile human blood have been added. Human blood can be very easily added by cleaning off the finger with alcohol and then slightly burning the same by igniting a small amount of alcohol on the finger, puncturing the finger and obtaining the blood by the method which has already been described. Before the addition of blood the tube of agar must be melted and again cooled to about 110^0 F. After the addition of blood the agar must be slanted and allowed to harden. The inocculation of the media must be made with that part of the swab which has been infected by the material from the lesion. Both the swab and culture should then be sent to the laboratory with a good history and the physician's diagnosis of the case.

4. **Water and Milk Examination.** Very frequently the laboratory man is asked to examine water and milk for typhoid bacilli.

The examination especially of water, has become so important that most lay people realize the fact that potability of water can be decided upon in the laboratory. It is important for the physician to know that in the laboratory, typhoid bacilli are rarely demonstrated in water and that the laboratory examination usually indicates only fecal contamination, as is evidenced by the presence of colon bacilli. However, in as much as colon bacilli may be obtained from fecal matter of various sources, their presence is only an indication of fecal contamination. It is, therefore, of the greatest importance that the laboratory man know about the epideminology, the source of water, and other data obtained by inspection of the surroundings from which the water is obtained. Furthermore, many samples of water are sent to the laboratory for examination in such containers and under such conditions, that they are absolutely useless as far as bacteriological examination is concerned. In all cases the physicians had better obtain from the laboratory such containers as will give satisfactory and reliable results. The rules of the American Public Health Association require that the bottles shall be of white glass, have glass stoppers and that the shortest time possible elapse between the collection of the specimen of water and the inoculation of culture media and that during this time the water bottles shall be packed in ice. Very convenient containers and shipping cases are now found in most laboratories fitted to make these examinations and should, in all cases, be obtained before the samples of water are collected.

5. **Pathological Material.** Pathological material to be subjected to miscrocopic examination should be well preserved as soon as it is obtained. One of the most satisfactory methods of preserving this material is to place relatively small pieces of the material into 4% formalin solution. Larger specimens should be well packed in ice.

The methods which have been given here apply only to the examinations most frequently made. The clinician often feels that he has not the time to perform these various examinations, however, if the laboratory or the physician's office is given attention, it can very easily be so arranged that most of these examinations require but little time and give very satisfactory results. When material is sent to the laboratory for diagnosis, the physician asks for consultation, and, hence, must give the laboratory man all possible assistance. In most cases of routine examination, the laboratory man has nothing to gain nor is the examina-

tion of the "greatest interest" to him that the clinician apparently supposes. In an editorial in the American Journal of Public Hygiene of November ,1909, laboratory examinations are divided into two groups; work which is of interest and value to all of the tax payers, which work should be provided for by the Boards of Health and done free of charge to the individual; and private work which is of personal interest to the recipitant alone, which at present, should be done by the private laboratory. Very often, the patient and physician would rather have their work done in the private laboratory than in the State or municipal laboratory, feeling that a greater personal interest may be taken in the private laboratory. In cases where work is to be done in the private laboratory, the physician should extend the same courtesy as he does to surgical, gyneocological, and other consultants, and give the laboratory man all the information he may need and decide upon such fees and help him to collect such fees, as he, himself, collects or would have any other consultant collect.

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MUSCULAR ATROPHY.

Causes—Diagnosis—Treatment.

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Read before Northeast Kansas Medical Society, Oct. 14, 1909.

Muscular atrophy may be due to inactivity, to local causes, or to central lesion. Muscular atrophy due to inactivity is slight and is not accompanied by the reaction of degeneration. Muscular atrophy due to local causes, as compression, division of a nerve, arthritis, or neuritis, is often pronounced and accompanied by weakness and deformity. Central lesions are frequently the cause of muscular atrophy.

When peripheral motor or mixed nerves suffer from serious disease or injury or when the anterior roots or ventral horn of the cord are the seat of destructive lesion, the result is flaccid paralysis with subsequent muscular atrophy accompanied by alterations in electrical excitability.(De R).

Muscular atrophy due to lesion in the nerve or in the cord is much more pronounced than in the paralysis of hemiplegia. In brain lesion the reflexes are usually increased and the reaction of degeneration present. The reaction of degeneration is almost a sure sign of degeneration of muscles and nerves. First, response to the faradic current is lost in the nerves. Second, the muscle fails

to respond to the faradic current. Third, the galvanic current does not excite the nerve. Fourth, muscles do not contract normally to galvanic currents. Anodal closing contraction equal to or greater than cathodal closing contraction. A most important sign of degeneration is a sluggish contraction in response to the galvanic current. The reaction of degeneration is partial or complete. In partial degeneration some restoration of function is possible, even in cases of very long standing.

Rapid atrophy accompanied by the reaction of degeneration is usually due to lesion in the lower motor neurons. Rapid atrophy without alteration of electrical excitability is due to dystrophy, primary muscle disease, or to joint disease.

Spastic paralysis without atrophy usually indicates lesion in the upper neurons, while flaccid paralysis with atrophy speaks for disease of the lower neurons. A form of muscular atrophy is found in pseudo-hypertrophy where there is increased bulk with decreased power. The muscle tissue is replaced by fat and connective tissue.

Trauma involving peripheral nerves may compress or sever the nerve causing more or less complete paralysis of the muscles supplied by the nerve. This paralysis is flaccid and degenerative. The muscle first becomes light red and later yellow. The transverse striations disappear and granular or waxy degeneration follows. Unless regeneration takes place in the nerve the muscle becomes fibrous. Severed nerves have been regenerated in a few days after primary or secondary suture. The sensation returns first, and much later, motion. The regeneration of muscles is a slow process.

Pressure injuries cause paralysis of longer or shorter duration. If severe the course is similar to that of a severed nerve. Here again we have flaccid atrophic paralysis with partial or complete reaction of degeneration. Joint injuries, professional pareses, neuritis, lead poisoning, and diphtheria are sometimes followed by similar musclar atrophy.

Treatment: The cause must be found out and removed. Regeneration of the nerve and muscle as complete as may be possible is the desired end. In toxic conditions eliminative treatment should be persisted in and where a specific or antidote exists its use is indicated. Quinine in malaria, mercury in syphilitic polyneuritis, potassium iodide and magnesium sulphate in lead poisoning, anti-toxin in diphtheria even late in the disease. Hot air baths are excellent where the patient's condition will warrant their use. Strychnine in very large doses is useful in this class of peripheral

lesions after the acute stage is past. $\frac{1}{60}$ gr. is not efficient, $\frac{1}{20}$ to $\frac{1}{15}$ should be given.

After all signs of irritation are past and the progress of the paralysis has ceased mechanical and electrical treatment should be given. They may be combined and may be persisted in for many months or until satisfactory results are obtained. Faradic, galvanic, or static currents may be used. In severe cases the faradic current is not useful.

Primary and secondary nerve suture may be performed where regeneration of the nerve cannot be brought about by electricity and massage. The divided ends of the nerve may be joined or the distal part may be joined to a sound nerve.

Muscle transplantation is of service when the muscle cannot be regenerated.

(For cases not benefitted by electricity and massage, muscle transplantation may be resorted to.)

Atrophy due to cord lesion.—Paralysis due to lesion in the anterior horns or anterior roots of the cord are flaccid and accompanied by the reaction of degeneration. The reflexes are decreased or lost.

Anterior poliomyelitis furnishes a paralysis of this kind. Infantile paralysis has recently been called polio-meningo-encephalo myelitis. The inflammation is located chiefly in the lumbar or cervical enlargements of the cord but with a tendency to extend even to the cortex. The acute stage of anterior poliomeylitis is not within the scope of this paper. The muscular atrophy follows the paralysis. Rapidly fatal cases are probably not purely anterior poliomyelitis but a diffuse inflammation or myelitic involving cord, membranes and even pons and brain. In cases that survive a paralysis which is fully developed from the beginning occurs in from one to three or four days. It is sudden and not progressive.

The lesion is commonly found in the anterior horns and is chiefly interstitial. When parenchymatous degeneration occurs it is secondary to or accompanied by interstitial changes.

Differential diagnosis—chronic stage.—Myelitis. Bladder weakness and sensory disturbances are common. They are rare in infantile paralysis. Myelitis is more common in adults.

Multiple neuritis.—Requires longer for paralysis to develop and may be distinguished by local pain and swelling.

In progressive muscular atrophy sensory disturbances are common. In amyotrophic lateral sclerosis the deep reflexes are increased and the cardinal symptoms are atrophy, rigidity and

paresis. Bulbar paralysis may appear later. There is weakness and atrophy in the upper extremities and weakness and rigidity in the lower extremities.

In spinal gliosis and syringomyelia of the cervical region the paralysis is progressive and not fully developed from the beginning as in anterior poliomyelitis. Disturbances of sensation are present. Touch and pressure may be intact while pain and temperature senses may be absent or impaired.

Paralysis caused by lesion of the upper neurons are spastic and not accompanied by the reaction of degeneration. The deep reflexes are usually increased. Atrophy does not occur.

The treatment of the paralysis of anterior poliomyelitis is chiefly mechanical and electrical. For cases not benefitted by electricity and massage, muscle transplantation may be resorted to and this procedure has been successful in a number of cases. Nowhere else do electricity and massage have a more useful field.

Where the reaction degeneration is only partial considerable improvement may be expected. Treatment should begun two or three weeks after the acute symptoms have subsided. These measures should never be used while an irritative lesion exists in the cord. Spontaneous improvement usually occurs and continues for a time, but this improvement is more rapid and complete if massage and electricity are used early. Many of these children do not come for treatment until spontaneous improvement has ceased, and then flaccid paralysis of one or more limbs with well developed atrophy of the muscle remains. The object of the treatment is to regenerate the muscles if possible. In late cases, faradic currents do not usually cause muscles to contract. When they do they may be used to treat them.

The galvanic current is most useful. The positive electrode is placed over the muscle and the negative over some indifferent spot. The milliampere meter should be used to ascertain the amount of the current. The meter is then cut out and the automatic interrupter cut into the circuit. 60 to 80 interruptions a minute are about right. Massage improves the nutrition of the muscles and sometimes succeeds when electricity fails. Treatment should be given three times a week and continued a year if necessary. The Morton wave is preferred by some, and when it is desired to place the electrode over the cord lesion it would better be used instead of galvanic electricity. The patient on an insulated table is connected with the + rod. The— rod is grounded. The spark gap is gradually widened from 7 to 3 inches, depending upon the machine and the patient. The electrode is

placed upon the muscle to be treated or by some over the cervical or lumbar portion of the spine.

By this treatment muscles long unable to do the work required of them may be improved until exercise is possible and consequent further improvement thereby assured or they may at times be developed or regenerated until by actual measurement they equal the sound muscles of the opposite extremity. While early treatment offers the best results, improvement has been obtained after twenty years. (Oppenheim.)

It is a satisfaction to the physician and a source of joy to the parent and child to watch the muscular contraction grow stronger from week to week and to see the muscles increase in volume and usefulness and the child become less and less a cripple. (Credit: Mayer, Oppenheim, Moyer, Landois, Cadwallader, Tyson.)

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Splint for Fractured Ulna.—Penn-Gaskell Skillern, Philadelphia (Journal A. M. A., January 22), reports a case of fracture of the ulna in the lower third of its shaft and in which the inferior fragment was driven outward, encroaching on the interosseous space. Reduction by manipulation was evidently to be maintained by over-abduction of the hand. The simplest way to secure this seemed to be to apply a Bond splint in reverse. A right-handed splint was used and the patient was instructed to grasp the semicylindric block with his hand. The shaft of the splint, being free, formed an acute angle with the radial border of the pronated forearm. The hand was secured to the block by adhesive strips applied so as to describe an ellipse between the posterior surface of the bases of the metacarpals and the under surface of the distal end of the splint. The acute angle between the shaft of the splint and the forearm was obliterated by pushing the splint toward the forearm until it paralleled the latter. This forced the hand over toward the radial side in overabduction and the lower fragment of the ulna was therefore drawn away from the radius as far as the interosseous ligament permitted and the fragment were perfectly coapted. He quotes from Gross's "Surgery" to show that the principle thus applied is an old one but thinks it deserves present consideration..

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Aspirin can replace morphine for many of the post-operative pains, particularly at night.—American Journal of Surgery.

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The above heading should go ahead of—In the use of massage.

THE JOURNAL
OF THE
Kansas Medical Society.

JAMES W. MAY, - - - - EDITOR.
ASSOCIATE EDITORS: J. E. SAWTELL, CHAS. S. HUFFMAN, O. P. DAVIS.

Subscription Rates: $2.00 per year, 20c single copy. Advertising rates furnished prompitly on application.

The Journal was established in June, 1901, by a publication committee at Topeka. In May, 1903, Dr. G. H. Hoxie was elected editor and served four years. In January, 1904, it incorporated the Wichita Medical Journal, owned by Drs. W. H. Graves and G. K. Purvis, and the Wesrern Medical Journal, owned by Dr. A. J. Roberts, of Ft, Scott. In March, 1909, it incorporated the Wyandotte County Medical Journal, owned by Dr. James W. May. It is now printed in Kansas City, Kansas, and appears the first of every month. Correspondence should be addressed to the editor. Editorial office, 501-2 Husted Bldg., Kansas City, Kans.

LIST OF OFFICERS.—President, O. J. Furst, Peabody; 1st Vice-President F. F. Foncannon, Emporia; 2nd Vice-President, J. D. Walthall. Paola; 3rd Vice-President, J. P. Kaster, Topeka; Secretary, Chas S. Huffman, Columbus; Treasurer, L. H. Munn, Topeka; Librarain. S. G. Stewart, Topeka.

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EDITORIAL

The time is drawing near for the next meeting of the state society, which will occur at Topeka, May 4, 5, and 6. Make preparations to attend and stay out the entire meeting. The program in full will be published in the April issue, giving you ample time to prepare yourself to discuss all papers in which you are interested. The program promises to be the best one in the history of the Society, and the entertainment provided by the Shawnee County Medical Society will be a feature of the meeting.

Come take a vacation of 3 days and help "whoop it up". On to Topeka! ! The entertainment program follows: Wednesday afternoon, 4th, Ladies entertained by Topeka Federation of Clubs. Wednesday evening, reception at Govenor's Mansion. Thursday noon, Luncheon for Ladies at Throop Hotel. Thursday noon, Luncheon for Men at Commercial Club. Thursday afternoon, reception for Ladies at Throop Hotel. Thursday evening, Majestic Theater, special performance. North Stock Co. According to weather, Automobile Drive over city.

Wives of physicians attending the meeting are specially requested to attend and physicians are urgently requested to bring their wives along.

EDITORIAL COMMENT.

Flexner's Denial of Antivivisection Canards.—Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research, has replied through the columns of the New York Times to the sensational articles recently published in the New York Herald, alleging that needless and uncalled for cruelties were inflicted on animals in the institute. To those who have followed the admirable work of the Rockefeller Institute, no vindication is necessary. The absurdity of supposing that men of the highest scientific attainments, recognized for their learning and culture both in this country and Europe, would devote weeks of time and would derive insane enjoyment from the needless torture of animals, as was practically charged, is apparent to every one except the hopeless fanatic or the well-meaning but undiscriminating sentimentalist, who is not mentally capable of being guided by either common sense or ordinary evidence. Dr. Flexner's statement is given in full in General News and Comment in this issue. It is so conclusive and convincing as to require no further comment and so moderate and rational as to need no corroboration.

Evidently the efforts of the antivivisectionists are to be centered on New York in the hope of securing the passage of some kind of restrictive legislation in that state which can be pointed to as a precedent. It is not so strange that ignorant scrubwomen should set themselves up as authorities on scientific work as that misguided fanatics are willing to give credence to their garbled and indiscriminating statements. The most painful fact, is that great city newspapers, in order to be able to spread sensational headlines on front pages, will mislead the public by traducing an institution which is doing a splendid work, solely for the public good. At the time that Mr. Rockefeller established the hookworm commission the newspapers emphasized as one of his characteristics that he always carefully investigated any proposed scientific or philanthropic organization or purpose before he gave his money to it and that he never contributed to any object unless it could be shown that results commensurate with the expenditure could be secured. Is it possible that Mr. Rockefeller is contributing millions to support an institution in which brutal scientists and insane surgeons amuse themselves by inflicting needless pain on helpless animals? Such a conception of his shrewdness is not in line with popular ideas on this subject. Mr. Rockefeller knows that Simon Flexner and his colaborers have reduced the mortality in cerebrospinal meningitis—that scourge of the infant world—from 75 per cent to 25 per cent, and perhaps Mr. Rockefeller considers that an institu-

tion that saves fifty baby lives out of a hundred is a good investment, no matter what it costs. Perhaps the mothers of the babies think so, too. But the New York Herald is willing to take the word of a scrubwoman that the Rockefeller Institute exists in order to gratify the brutal and inhuman instincts of men who are striving to save babies from death.

It is almost unbelievable that any newspaper would so far sacrifice its reputation to a desire for sensationalism as to print such a story as that which appeared in the New York Herald, December 27.—Ed. Journal, M. A. Feb. 5. 1910,—The opposition to animal experimentation has enlisted the services of a number of newspapers who without knowledge or capability of passing judgement, pass an opinion as one having authority. A widely known lawyer from Great Britian has volunteered to come to America to help "educate" the laity and stir up sentiment against this form of medical progress. It all means that the profession must be awakened to the needs of suppressing false sentimentality and harmful legislation. We in the west have heard very little of the agitation, for the reason that it has been confined principally to New York, where if their proposed legislation carries, a concerted action on the part of the anti-vivisectionists will hastily make its apearance.

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One Remedy.—The leading editorial in the December number of the New York State Journal of medicine entitled "The Economics of Medicine," must have been widely read and should be carefully studied by all those interested in the future of medicine as a profession. That the practice of legitimate medicine to-day yields an income ridiculously small for the capital invested, and the amount of work performed, is only too true. In proof of this it is unnecessary to go into history, or to quote statistics, the effects are plain to those who have eyes to see and ears to hear. Existing conditions require the doctor to do entirely too much work for nothing, and he who serves the community without exacting his pay goes under. A doctor must make money whatever else he does or does not do, otherwise he must forego marriage or doom his wife and children to poverty and unhappiness.

Why does medicine no longer pay? It is difficult to know just how to set about proving a fact that to the writer's perception is so universally obvious—especially in our large cities. One can only ask the reader to go about and see for himself. Everywhere he will find hospitals vieing with each other to secure the greatest number of patients, dispensaries crowded to the doors

with patients able to pay 50 cents or $1.00 for an office visit, while no attempt, or at the best only a half-hearted one, is made to discriminate between those who are worthy and those unworthy of free treatment. These institutions for which the doctors slaves without pay are not controlled by him, dependent as they are upon him for their support, but by a board of laymen. These are drawn from the business world where commercialism reigns supreme and quite naturally fall into the error of judging the means of their institution by the number of patients it treats irrespective of whether they are worthy of such treatment or not. It cannot be long before the manifest absurdity of our present condition of bondage will become patent to all. Then the profession will take the control of the practice of medicine, especially the charity practice, into their own hands where it fitly belongs, and keep it there. Already we are strongly organized. Let us use our strength to fight as well for the economic advance of medicine as we have for medicine as a science. Let every medical society throughout the land give to this subject for the coming year the serious and sincere attention it deserves and it will not be long before we witness the dawn of a new era in medical practice.—N. Y. State Medical Journal.

Right! The economics of medicine should rightly command the attention of the profession, and that at once . With the cost of living reaching higher and higher until it seems it will never stop and since the medical profession has not the ways and means to stop it then measures should be instituted to stop the drain of "cut price doctors", charity work that is not charity work, contract prices at ridiculously low prices, etc. An idea of this sort of practice can be had by reading this editorial note from the Indiana State Medical Journal

In some communtites the cost of meat and nearly everything else goes up, but the cost of medical services jemains the same or less than twenty years ago. As an instance of the ridiculous cut-throat measures adopted by some so-called physicians to obtain "business", we need only mention a suit brought against some county commissioners by an Ohio doctor to enforce a contract calling for an average of 25 cents per visit, medicines included, for professional (?) services rendered the poor.

A good subject for discussion at the next State medical meeting would be "Medical Economics that Concern Us Now."

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NEWS NOTES

Dr. E. N. Robertson of Concordia is in New York taking post-graduate work. He stopped a week at Rochester, Minn., on his trip and a few days at John Hopkin's Medical College, Baltimore, Md.

New Surgeon General. Medical Director Charles F. Stokes was nominated for surgeon-general of the Navy, February 5, to succeed Rear Admiral Presley M. Rixey, who retired voluntarily.

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Hiram Thomas Clary, M. D., Bennett Medical College, Chicago, 1884; of Winfield, Kan; a member of the local pension examining board; died at the home of his son in Kansas City, Mo., January 17, from acute dilatation of the heart, aged 71.

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The department of pathology at the University of Kansas has arranged to keep constantly on hand the serum which has been found useful in the treatment of epidemic cerebro-spinal meningitis. This serum cannot be purchased on the market and it is to be had only from Dr. Flexner, himself, and then only on condition that it be given by someone trained in his laboratory. Dr. E. H. Schorer of the University School of Medicine will have personal charge of the serum and will go anywhere in the state to administer it. The bacteriology of each case will also be worked out in the pathological laboratory of the University.

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In the Interests of Medicine.—The Stubbs-Grenfell fellowship is the latest to be announced at the University of Kansas. The fellowship pays its holder $1,000 for a period of one and one-half years. Roy Wiedlein, a graduate of the University last year, has been appointed to be the fellow. Governor W. R. Stubbs gave the money for the work of this fellowship for investigating the possibility of extracting from the ductless glands of deep sea mammals certain substances which are of exceeding great value in medicine. The noted Dr. Grenfell, the Labrador missionary, is the one who suggested this line of research. Mr. Weidlein will spend several months in studying the scientific side of his subject and will then go to Labrador where he will spend the summer investigating the material which Dr. Grenfell will assist him in collecting. He will return to the University next winter for laboratory study of the products of his summer's work. Physicians especially are greatly interested in this investigation.

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Meeting of the Council of the Kansas Medical Society, Held at Kansas City, Kansas., December 29, 1909.—Those present were Dr. O. J. Furst, President; Dr. C. S. Huffman, Secretary; Dr. L. H. Munn, Treasurer; Dr. J. W. May, Editor of the Journal; Drs. Preston Sterritt, Councillor of the Third District; O. P. Davis, of the Fourth district; W. E. Currie, Councillor of the fifth dis-

trict; Arch D. Jones, Councillor of the sixth district; O. D. Walker, Councillor of the Eighth district; E. J. Beckner, Councillor of the tenth district and Dr. G. H. Hoxie, Dean of the Medical Department of the University of Kansas.

Dr. J. W. May was elected editor of the Journal for the ensueing year.

In the matter of furnishing reprints to the writers of papers, it was decided that this should be left to the editor of the Journal, as to cost, etc.

The secretary reported the organization of two new county Societies, one composed of Meade and Clark counties, and one composed of Sheriden, Gove and Graham counties.

It was also decided that members of the State Society on the program, should be present on the day that the program called for. It was also decided that no one should be placed on the program, who did not send the title of his paper.

Heretofore the Council and House of delegates have met on the evening of the day before the state meeting. This has been changed, and the council and House of delegates will meet on Wednesday, May 4th, the first day of the meeting of the society.

Dr. Walker brought up the question, "Whether a physician could be a member of the county society and not pay dues to the state society." He stated that there were some in his county who did not want to become members of the state society or pay state dues. It was decided by the council that this could not be done under our present constitution and by-laws.

Dr. O. P. Davis, appealed to the county societies to do more practical work instead of didactic work, taking the ground that more substantial good could be accomplished by this method.

Dr. Hoxie, of the medical department, of the University, reported that the University Extension Movement contemplated getting in close touch with the county societies.

Council adjourned.

CHARLES. S. HUFFMAN, Secretary.

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Fund for Physicians Disabled by Sickness.—The Journal A. M. A., in its issue of February 12, publishes the following letter: To the Secretary of Each State and County Medical Society, and to Other interested Members:

At the last session of the American Medical Association at Atlantic City the following report of Committee on Miscellaneous Business was adopted:

"The committee recommends that the President of this

Association appoint a committee of five members to inquire into the desirability and practicability of establishing under the auspices of the American Medical Association a fund for the assistance of physicians disabled by sickness, and for a sanatorium for the treatment of such members of the Association as may be afflicted with tuberculosis or similar diseases; such committee to report to the House of Delegates at the next annual session of the Association."

As a basis for wise action the committee urges that the officers of state and county medical societies, and others interested in the subject, should at the earliest possible date, forward to the secretary of the committee, Dr. A. C. Magruder, Colorado Springs, Colo. answers to the following queries, with some account of any special cases that seem to illustrate the need for provision for disabled members of our profession.

1. Is there any provision by your state medical society or local society for the care of destitute and disabled physicians and those dependent on them? If so, how is such provided.?

2. What number of instances of special need for such assistance (or sanatorium treatment) have arisen in your locality within the last five years? and what number of your members need such assistance now?

3. About how many members of your county medical society are at present afflicted with tuberculosis or similar diseases; or have within the last five years, died or withdrawn from professional work on account of such disease?

It is earnestly requested that this matter be brought before each county and state society at its next regular meeting, and that the desired information be furnished our committee at the earliest possible date.

The medical press is respectfully requested to republish this letter in order to give the subject wide publicity.

EDWARD JACKSON, Denver.
JEFFERSON R. KEAN, Washington, D. C.
A. T. BRISTOW, Brooklyn.
H. B. ELLIS, Los Angeles, Cal.
A. C. MAGRUDER, Secretary,
305 N. Tejon Street, Colorado Springs, Colo.

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CLIPPINGS FROM LAY EXCHANGES.

OLECTOMY.

J. J. A———has just undergone an operation. . . for what is known as "grease leg", a very uncommon and very painful dis-

ease. This was caused by a sprain in his right knee. The oil that lubricates the system gathered there, and some six ounces of oil of a reddish color were extracted.—El Paso (Tex.) Herald.

The Tumor were Removed.

Last week Drs.———, . . . , performed one of the most delicate and difficult surgical operations that the medical fraternity are seldom called on to perform. For some time Miss——— had had a tumorous growth in the stomach that has been carefully noted by Dr.———, and when he deemed the right time for a surgical operation to be performed informed Mis———that only a most dangerous and difficult operation could save her life. The time arrived last week and the young lady bravely consented that the work might go on. Drs.———and——— were called and a large tumor removed.—Scottville (Mich.) Enterprise, Dec. 16, 1909.

A Horoble Firey Swelling Spred.

Last Thursday evening . . . W. D. F. ————noticed a slight sore on the second finger of his right hand, ... it gradually grew worse and until by Friday evening his hand was badly swolen and was gradually swelling up the arm. The red danger signal of blood poison began to show and a strip an inch and a half wide and of a firey inflammed color pushed its horoble course to the shoulder, while numerous small branches began to shoot from it. Billy was suffering greatly and his fever run up to 103. Dr. ——— was summoned and his skill soon arrested the spred of the poison, and he soon began to feel easier and by Sunday morning he was able to be out of bed. ——Standard (Neb.) Guage, April 22, 1909.

Made Him Ill to be Threatened.

Dr.———is quite ill of a threatened attack of fever.—Pikeville news, Ashland (Ky.) Independent, June 9, 1909.

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Open Meetings of County, District and Other Local Medical Societies.—(Extract from the minutes of the House of Delegates of the American Medical Association, Atlantic City, N. J., June 10, 1909.)

Whereas, The American Medical Association, not only as one of its declared purposes, but by numerous lines of activity, many of them connected with the Section on Hygiene and Sanitary Science, stands committed to the education of the public with respect to the nature and prevention of disease; and,

Whereas, The demand for such popular education with respect to tuberculosis, cancer, typhoid fever and other decimating diseases has become urgent; therefore, be it

Resolved, That all county, district and other local medical

societies be, and they are hereby, requested to hold annually one or more open meetings to which the public shall be invited to attend and participate and which shall be devoted to a discussion of the nature and prevention of disease and to the general hygiene ic welfare of the people.

It was moved that the resolution be adopted. Seconded and carried unanimously.

GEORGE W. SIMMONS.
General Secretary American Medical Association.

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Dr. H. F. Hyndman will locate in Wellington, June 1, 1910.

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Dr. G. D. Pendell has rented an office and located in Wellington. He will confine his work to electricity, X-Ray, etc., exclusively.

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The Wellington Commercial Club soliciting committee raised $10,000 in seven days for a hospital which is to be the property of Bishop Frank Millspaugh and his successors to office. Three thousand dollars of the above amount was subscribed by the Sumner County Physicians.

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Dr. Wm. Martin of Wellington, is doing post-graduate work in New York.

Dr. H. A. Vincent, of Perth, Kansas, is sojourning in Florida for health's sake, and his practice is being cared for by Dr. J. O. Dingus.

Dr. Clark has located in Belle Plaine, Kansas.

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SOCIETY NOTES.

THE KANSAS MEDICAL SOCIETY WILL MEET AT TOPEKA, MAY 4, 5, 6.

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The Missouri State Medical Society will hold its annual meeting at Hannibal, May 3, 4 and 5, 1910.

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The American Proctological Society will hold its next meeting at Planters Hotel, St. Louis, June 6 and 7, 1910. Dr. Lewis H. Adler, 1610 Arch Street, Philadelphia, is the secretary.

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The Wyandotte County Medical Society at its regular semi-monthly meeting, held the following program: Dysentery, Dr. W. H. Walker; Selected Subject, Dr. E. M. Hetherington.

Parsons, Kansas, February 24, 1910.

The Labette County Medical Society met in the parlor of the Matthewson Hotel, Parsons, last evening. After the business meeting, the following clinical cases were reported:

Dr. Maser reported a cataract operation on a man 86 years of age. The case is unique on account of the advanced age of the patient. Dr. Boardman reported a case of meningitis in a child of two years, with projectile vomiting, retracted head, shrill cry, etc., Dr. Vaughn reported a case of peculiar spasm of the head and arms with partial loss of consciousness. A diagnosis of probable hysteria was made. Dr. Perry reported a case of traumatic hysteria in which the patient was bedfast but made a good recovery under appropriate treatment.

Dr. Perry conducted a quiz on the brain and its diseases, demonstrating the various functional areas and the cranial nerves from a specimen.

O. S. HUBBARD, Sec'y.

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The Northeast Kansas Medical Society held its annual meeting at Lawrence Kansas, Feb. 10. The meeting was one of the most successful in the society's history—more than 60 members being present. The afternoon session was held in Snow hall at the University. Chancellor Strong delivered the address of welcome. The following program was then given: President's address "What Shall We Do To Be Saved?"—A Plea for Medical Solidarity, Dr. O. P. Davis; Embryological Beginnings of Teratomata, Dr. C. E. McClung; Laboratory Methods Accessible to the Clinician, Dr. E. H. Schorer; Contagious Diseases and Their Management, Dr. Henry B. Miller; Obstructed Nasal Respiration and Its Effects, Dr. H. L. Alkire; Eye Trouble of School Children, C. L. Williams; Gynecology, Dr. J. C. Shaw; Location of State Sanitarium for Tuberculosis, Dr. M. A. Barber; Gonorrhoea, Its Relation to the Public Health, and Prophylaxis, Dr. S. G. Zinke. The society was the guest of the Douglas County Society at a 6 o'clock dinner, given at the Eldridge Hotel. The meeting in October will be held at Leavenworth. The following officers were elected: President, Dr. James W. May, Kansas City;Vice-President, Dr. E. J. Blair, Lawrence, Secy-Treas., Dr. H. L. Chambers, Lawrence, re-elected.

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Medical Society of the Missouri Valley.—Physicians of the Missouri Valley are anticipating with pleasure the twenty-second semi-annual meeting of this society, to be held at Omaha, Thursday

and Friday, March 17 and 18, under the presidency of Dr. A. B. Somers, Invitations have been sent to a number of men of national reputation, as well as to the presidents of all the State societies, within the province of this association. A number of applications have been received by the secretary for places on the program, and the interest in this meeting is already widespread.

The Oration on Surgery will be delivered by Dr. Leonard Freeman, of Denver, president of the Colorado State Medical Society. His subject. "Local Anesthesia," is a particularly timely one.

The Oration on Medicine will be delivered by Dr. Frank Parsons Norbury, Superintendent of the Illinois State Hospital for the Insane, at Kankakee, Illinois, the subject to be announced later.

The arrangements are under the auspices of the Omaha-Douglas County Medical Society, and a committee has been appointed, with Dr. John E. Sumners as chairman, which alone ininsures a cordial welcome.

Members of the association desiring to present papers at this meeting will kindly send their titles to the secretary at once. Abstracts of papers must be furnished by February 20, to insure a place on the program.

If you are not a member of this progressive society, send in your application at once to the secretary. Meetings in September and March of each year. Annual dues two dollars.

A cordial invitation is extended to the medical profession.

CHARLES WOOD FASSETT, Sec'y.
St. Joseph, Mo.

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The Rice County Medical Society held an open meeting in the interests of public health, in the M. E. Church, at Lyons, Thursday evening, Jan. 27. Nearly two hundred people were present, which is the largest attendance at a meeting of this character the society has ever had.

Mr. Junkin not being able to be present, his paper was read by the secretary, the subject being, "The Relationship of the Press to Public Health." Mr. Junkin showed in many ways how the press was an important educator on public health questions, giving the cause of disease and the corresponding preventive measures, leading in matters of sanitation. "Doctors of today find intelligence as an handmaid in every household where formerly ignorance stood as a menace to their work of mercy. The newspaper has been largely responsible for the change."

In opening the discussion, Dr. Currie told of appropriations by our state legislature for the stamping out of hog cholera, but its failure to provide for the poor consumptive. He also criticized the Church papers for their advertisements of patent medicines and quack nostrums.

Prof. W. S. Higgs, our worthy county Superintendent gave an excellent paper on, "'School Hygiene and Medical Inspection of Public Schools." Among other good things, he empasized the following points: Every schoolhouse" should be properly constructed, under supervision of a sanitary officer, as to light, heating ventilation, drainage and seating. There should be at least 30 sq. ft. of play ground for each child.

Physical inspection of pupils should be made and defects of sight, hearing or speech noted and corrected. Contagious diseases could be largely eliminated with proper care. Compulsory vaccination should be carried out. The drinking fountain and the individual cup is a step in the right direction.

Dr. Marion Trueheart in opening the discussion emphasized some of the points already given and said that neglected physical defects in the pupil often meant for them failure in life. We have a duty in this line that we are not performing, both as parents, public spirited citizens and as physicians. Money spent in looking after the welfare of school children is not only a humanitarian principle, but one of economics as well. We sometimes spend more money in looking to the good care of our stock, than for our children.

Dr. Crumbine, the Secretary of the State Board of Health, was present and we hope to be able to see his paper given in full in the Journal soon. His topic was ,"The Pollution of Underground Waters," and was handled in his usual thorough going style. He told of the many ways of soil and water contamination and its meaning to public health and of the care needed to prevent these conditions. The "Unheavenly Twins" are the privy vault and the shallow well. He showed in an impressive way, the great economic waste, to the individual, the community, the municipality, the state and the country in general, by carelessness in matters of sanitation. Theoretically the farm should be the most healthful place but practically it is not so. The farmer must pay more attention to sanitation also.

Hook worm and many other diseases are National Questions. He said the state of Kansas has a great responsibility to perform in the care of its school children. He complimented The Rice County Society in its work of this character for the public good and

suggested "Insects and Insect Carriers of Disease" as a topic for an evenings discussion. This suggestion may be carried out later in the year.

Dr. Chas. Fischer opened the discussion emphasizing the importance of different points in sanitation.

Several in the audience took part in the discussion, among them Mr. Sam Jones, who enlivened the meeting by his witty remarks and some dabs at the doctors and newspapers.

The society feels well repaid for its effort put forth and we believe it will result in good and a similar meeting will be held elsewhere in the county in the future.

The society wishes to express to Dr. Crumbine their thanks for his efficient help in this work.

H. R. ROSS, Sec'y.

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Sterling, Kansas, Feb. 7, 1910.

To The Kansas Medical Journal:—

The Rice County Medical Society at its annual business meeting in December elected the following officers for the year 1910. President Dr. D. T. Muir, Alden; Vice-President Dr. F. E. Wallace, Chase; Secretary-Treasurer Dr. H. R. Ross, Sterling; Censor for three years, Dr. L. E. Vermillion, Lyons; Delegate to the state society for 1910, Dr. M. Trueheart, Sterling; Dr. Chas. E. Fisher of Lyons was chosen to represent the society at the state meeting in May and read a paper.

The society is following the post-graduate course as outlined by the A. M. A. and is in a thrifty condition.

H. R. ROSS, Secretary.

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Salina, Kansas, Feb. 1, 1910.

Editor Kansas Medical Journal:

The Saline County Medical Society met in the offices of Dr. Anderson, in Salina, on the evening of Jan. 13. The clergy of Salina had been invited to this meeting, and a goodly number were present. The paper of the evening was one on "Psychotherapy" by Rev. James Marcus Newton. This was one of the most scholarly papers ever read before this society. Dr. Newton is specially prepared to treat this subject in an interesting as well as in a practical way, He has been a student of Prof. James of Harvard and has done Emmanuel work with Drs. Worchester, McComb and, Coriat of Boston,.

The following is a very condensed outline of Rev. Newton's lecture on "Psychotherapy":

I. Conditions of scholarship—open mindedness and unbiased judgements.

II. Modern Psychological pronouncements—how they are received.

III. Review of the philosophic evolution which resulted in Absolute Idealism—The present philosophic status.—Beginnings of a philosophic revolution—"Pragmatism," as championed by Professors James Dewey and Pierce, and its message—.Its method scientific rather than metaphysical.

IV. Christian Science.—Its genesis, and some of the mental factors that make for its success.—Its metaphysical tenets.

V. The Emmanuel Movement.—Its consistency with Medical Ethics.—Its restriction to functional neuroses.

VI. Mind and it two-foldness—the conscious and the subconscious.—Power of the conscious mind over the body.—of the subconscious mind.—Functional nervous disorders, their causes, and the psychotherapist's suggestions on treatment.—Concrete examples—power of systematic suggestion.—Final conclusions.

L. O. NORDSTROM, Sec'y.

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The Clay county Medical Society met in regular session at Clay Center, March 9. The following program was given: "The Relation of Physician and Surgeon"; Dr. H. C. Crowell, Kansas City, Mo; Lenkemia with Treatment by the X-Ray and the Report of a Case, Dr. Martha M. Bacon, Kansas City; "Hydrophobia" Dr. S. S. Glasscock, Kansas City.

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Wilson, Kansas Feb. 28, 1910.

Secretary of Kansas Medical Society:

Dear Sir:—

On February 18, 1910 a number of the representative physicians of Ellsworth, Russell and Ellis Counties, met in Ellsworth, for the purpose of forming a local Medical Society, this Society to be known as the Central Kansas Medical Society, which was duly formed, with the election of the following officers: H. Z. Hissem, President, Ellsworth; J. H. Catudal, Vice-Pres. Hays; A. E. O'Donnell, Secretary, Wilson; C. D. Blake, Treasurer, Ellis; G. A. Keerber, Censor 3 years, Russell; Albert Silverstein, Censor 2 years, Hays; J. M. Downs, Censor 1 year, Ellsworth.

The following is a list of members to date: H. Z. Hissem, Ellsworth; H. C. Mayer, Ellsworth; Alfred O'Donnell, Ellsworth;

J. M. Downs, Ellsworth; Arthur Bowles, Ellsworth; Carl J. Gramm, Lorraine; John H. Gainey, Wilson; A. E. O'Donnell, Wilson; G. A. Keerber, Russell; J. U. Catudal, Hays; Albert Silverstein, Hays; C. D. Blake, Ellis.

I herewith make application for charter for the Central Kansas Medical Society, and enclose order on the Treasurer for $22.00 dues to state society, for all the above members with the exception of Dr. H. Z. Hissem. whose dues to the state society are already paid. Kindly acknowledge receipt of same, and forward charter.

yours fraternally,

ARTHUR E. O'DONNELL, Secretary.

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Wellington, Kansas, 3-4, 1910.

At an open or public meeting, given under the auspices of the Sumner County Medical Society, Dr. S. J. Crumbine, Secretary of the Kansas State Board of Health, delivered an address on the subject of "Water and Soil Pollution."

The meeting was attended by an enthusiastic audience and, various public health questions were discussed by members of the Society, Ex-Judge, W. T. McBride, Senator, Geo. Hunter, and other prominent laymen present.

The following resolution was given unanimous approval:

"Resolved, That it be the sense of this meeting that our representatives and senators in congress, be, and are, hereby, requested by the people of Sumner County to use their prerogatives and votes to support the establishment of a National Bureau of Public Health, with such financial support and authority as will enable it to render efficient service in all public health measures and activities throughout the U. S. and its territories.

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Communications.

Concordia, Kansas, February 24, 1910.

Editor of Kansas Medical Journal,

Dear Sir:—

In reading an interesting report of one of the medical societies in the Kansas Medical Journal for February, I noticed the reporter used the word "Allopathic." That word "jars" me. The regular physicians have always repudiated that name, applied to them years since by the Homeopaths. There are no allopaths today and probably never were any. What the regular physicians have aimed at is scientific medicine without any name or pathy. Considering the progress of the profession in the past

few years, we have good reason to hope that ere long there will be no different schools of medicine, that all will be working together for the cure of diseases on a purely scientific basis. Hasten the day.

W. F. SAWHILL, M. D.

The point is well taken. In the future we should take care not to use the misnomer that has been handed us by the Homeopaths.

EDITOR.

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CLINICAL NOTES

In the use of massage in the treatment of fractures, the manipulations should at first be of the gentlest character—"little more than a caress." Later more forcible pressure may be made, but never to the point of causing pain.—International Journal Surgery.

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Tenderness of the nipple generally precedes the formation of fissures or excoriations during lactation, and if present, the intervals between nursing should be increased and the child left at the breast for only a few minutes, until the secretion is fully established.—International Journal Surgery.

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Medical Treatment of Ingrowing Nails.—Free application of dried powdered alum is sufficient to cure every case of ingrowing nail in about five days. The applications are never painful in the least, and the destruction of the pathologic tissue results in the formation of a hard, resistant and non-sensitive bed for the nail, a perfect cure for the ingrowing tendency. The non-toxicity of the alum, its easy application, and the good results render it the treatment of choice for cases in which surgical intervention is not contemplated. A fomentation of soap and water is applied for twenty-four hours beforehand, and then the alum is applied in the space between the nail and its bed, tamponing with cotton to keep the alum in place, and repeating the application daily. The suppuration rapidly dries up, and pain and discomfort are relieved almost at once.—Exchange.

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Pineapple As A Medicine.—"The medical value of pineapple has recently (Southern California Practitioner) been the subject of considerable inquiry among physicians, and in Hawaii experiments have been made to determine something of these properties. It has been found that the fruit of the pineapple contains

a digestive principle closely resembling pepsin in its action, and to this is probably due the beneficial results of the use of the fruit in certain forms of dyspepsia. On the casein of milk pineapple juice acts as a digestive in almost the same manner as rennet, and the action is also well illustrated by placing a thin piece of uncooked beef between two slices of fresh pineapple, where inthe course of a few hours its character is completely changed.

"In diphtheritic sore throat and croup pineapple juice has come to be very largely relied upon in countries where the fruit is common. The false membranes which cause the closing of the throat seem to be dissolved by the fruit acids, and relief is almost immediate."—American Medicine.

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Nitrous-Oxid-Oxygen Anesthesia.—W. D. Gatch, Baltimore (Journal A. M. A., March 5), gives the results of a trial of nitrous-oxid-oxygen anesthesia with a simple sterillizable apparatus, economical in gases and inexpensive. In order to assure economy he made special research into the effects of rebreathing, with the view of determining how far it might be permitted. In his apparatus waste of gas is prevented by a mask provided with a rubber cuff fitting around the face. He at first adhered to a rule of allowing rebreathing for only about sixteen respirations, as he feared that too high a percentage of carbon dioxid would be injurious. But later he has been less particular as regards this point, as he found that rebreathing to a moderate degree was harmless and in many cases beneficial. It causes increased depth of respiration, slowing of the pulse, a rise of blood pressure, and of temperature, and it seems probable that all but the last of these results are attributable to the action of carbon dioxid. There is evidence, also, that surgical shock, in the absence of hemorrhage, may be caused in part by excessive pulmonary ventilation. It is unnecessary, he says, to measure the percentage of oxygen given. He has given nitrous oxid with oxygen by the method of rebreathing, without mishap, to about seven hundred patients. Vomiting is not a cause of trouble when the patient has been properly prepared for operation, but at the first sign of retching the mask is to be removed As the patient regains consciousness quickly, he is not likely to aspirate vomitus. For an adult man rebreathing can be permitted for two-minute intervals, and for three-minute intervals for women and children. In certain cases, the ether-nitrous-oxid sequence is advisable to avoid a disagreeable degree of cyanosis. Ether should never be given for long periods by the mask, and chloroform never.

Laryngeal Diphtheria.—C. H. Shutt, St. Louis, (Journal A. M. A., February 5), thinks that non-instrumental methods are worthy of more frequent trial, at least in hospital practice, in cases of laryngeal diphtheria with only slowly increasing dyspnea, only moderate exhaustion, and slight cyanosis. The local measures consist chiefly in inhalations, securing of favorable surroundings and perhaps in the induction of vomiting to aid in removing loosened membranes. General medical treatment consisting of antitoxin and stimulation as needed, cathartics, diuretics, etc., should be employed as in pharyngeal diphtheria. Antitoxin should be employed in all cases and as early as possible, and he prefers moderate sized doses repeated every four to six hours as more effective and less depressing than massive ones. When the patient is very weak, toxic or much cyanosed, surgical or mechanical measures are indicated and the choice is between intubation and tracheotomy. The author's conclusions are as follows: "Physicians should be prepared and expect to treat laryngeal diphtheria which usually presents as an emergency. Although possessing intubation instruments, the physician may find himself without them in an emergency and be compelled to attempt tracheotomy. Non-instrumental methods of relief are worthy of more frequent trial, especially in institutional work and in those cases in which dyspnea is increasing slowly, exhaustion is moderate, cyanosis is not severe and the surroundings are favorable. Intubation may be performed in cases in which the symptoms indicate recent and closely adherent membranes. It should be employed only when intelligent nursing may be had and when the physician is within easy reach. Every physician should be familiar with the technic of tracheotomy. The cadaver or lower animal may furnish opportunities in this direction. Tracheotomy may be be more eas ly and safely performed by using the tenaculum hook for tension on the trachea, as described above, and by placing the patient in the position illustrated."

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QUININE AND UREA HYDROCHLORIDE AS A LOCAL ANESTHETIC.

In the Journal of the American Medical Association of October 23, 1909, Brewster, Rogers, and Hertzler state that any operation ordinarily done with cocaine can be done with quinine. The technique of its use is the same. As in the use of cocaine, only those tissues known to be sensitive should be injected. In clean tissue the ⅔per cent solution seems to be strong enough to produce anesthesia lasting several hours. In regions where primary

union is not necessary, particularly in tissue the seat of inflammatory reaction, the stronger solutions are more satisfactory. In the opening of abscesses, for instance, and operations for anal fistulas, hemorrhoids, etc., the stronger solutions are the ones of choice. In region in which operation is attended by hemorrhage, too, notably tonsillectomy, turbinectomy, etc., the 1-per-cent solution, or stronger (3-per-cent, Brown), is the solution of choice. The stronger solution is desirable here because of the hemostatic effect exercised by the fibrinous exudate. The exudate being fibrin in the strict chemical sense, the usual natural processes of hemostasis are anticipated. The coagulum occurs, it is true, about and not in the vessels, and their occlusion, therefore, results from pressure without. The important point, however, is that the effect lasts from seven to fourteen days, a time abundantly sufficient to allow healing by granulation to become well advanced. This is in marked contrast to the ephemeral influence of cocaine and adrenalin, which act only by causing a contraction of the muscular walls of the blood-vessels.

The authors have done the following operations, among others, under quinine anesthesia: drainage of the gall-bladder, drainage of appendiceal abscesses, exploration laporotomies, hernias, castration, varicocele and hydrocele operations,etc., and the removal of all sorts of tumors ordinarily undertaken under cocaine.

They desire particularly to emphasize the value of this anesthetic in two operations. In operations about the anus it is for them, they assert, the anesthetic of choice. In both fistular and hemorrhoids, any of the radical operations can be performed with the same thoroughness as under a general anesthetic. The advantage consists in that the duration of the anesthetic is from seven to ten days, which does away entirely with the after-pain ordinarily attending these operations. In tonsillectomy the results have been equally satisfactory For this operation a large amount of the solution is injected about the tonsil between it and the faucial pillars This forms an artificial edema about the tonsil which facilitates its removal. An unlimited amount of solution may be used with impunity, so that a satisfactory anesthesia can be easily secured. Because of its safety both tonsils may be operated on at one sitting The absence of afterpain is as desirable here as following an operation about the anus.

As a local application about the eye the writers state they have no experience, but turbinectomies and septal spur operations have been done with a fair degree of satisfaction when the drug was used as a topical application. For local application the

strength must be from 10 to 20 per cent, as correctly stated by Thibault. When the solution is injected beneath the mucosa, however, anesthesia is perfect and hemorrhage slight. It is interesting to note that Fulton used quinine as a local application to the nose in hay-fever.

In the bladder, as a preliminary to cystoscopy the result has been very satisfactory. A solution of from 10 to 20 per cent is used and allowed to remain from twenty to thirty minutes. The only objection to this solution is the difficulty of removing the precipitated flocculi from the bladder after the anesthesia is complete. These flocculi work no further mischief than to obscure the vision.

The chemical used is the quinine and urea hydrochloride. For extensive operations about the rectum and throat two 2-grain tablets are dissolved in an ounce of plain sterile water. An ordinary glass hypodermic syringe is used. In cases in which relatively short anesthesia only is required, and in which prompt union of the severed surfaces is desired, a ⅔-per-cent solution seems to be the solution of choice. It is unnecessary to distend the tissue. The fluid should be injected slowly under light pressure into the area to be anesthetized. The production of edema is unnecessary and should be avoided except in cases in which edema facilitates technique (tonsillectomy, removal of encapsulated tumors.) Those who have a finished technique in the use of other local anesthetics will experience no difficulty in the use of quinine.

The advantages of this anesthetic over cocaine and its congeners are as follows:

1. Its absolute safety. One of the writers (Brewster) has used as much as 100 grains intravenously in six hours in pernicious malaria with the recovery of the patient.

2. The duration of the anesthesia. The after-pain in certain wounds is avoided.

3. The hemostatic effect.

—The Therapeutic Gazette.

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Meltzer's sign—pain on active flexion of the hip, with the knee extended, while the examiner presses firmly down over McBurney's point—is a most valuable corroborative evidence of appendicitis. It is not intended for cases in which abscess is palpably present.—American Journal of Surgery.